

PTO/SB/08A (04-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet	1	of	10
-------	---	----	----

[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
FTP ↑ ↓ FTP		WO 98/54966	12/10/1998	Merck & CO, Inc		
		WO 99/02514	01/21/1999	Bristol Meyers Squibb		
		WO 99/67253	12/29/1999	Novartis AG et al.		
		WO 99/67252	12/29/1999	Novartis AG et al.		
		WO 99/66028	12/23/1999	Novartis AG et al.		
		WO 99/59985	11/25/1999	Novartis AG et al.		

Examiner  
Signature

Fiona T. Powers

Date Considered

6/21/04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

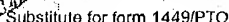
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.









Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

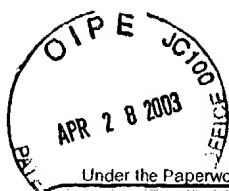
(Use as many sheets as necessary)

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet	3	of	10
-------	---	----	----

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**Complete If Known****INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Michell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza-Small
Attorney Docket Number	1786

Sheet 4

of 10

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
FTB ↑		HOFLE, G.; GLASER, NO.; LEIBOLD, T.; SEFKOW, M. Epothilone A-D and their Thiazole-Modified Analogs as Novel Anticancer Agents. Pure and Applied Chemistry 1999, Volume 71, Pages 2019-2024.	
		ZHU, B.; PANEK, J.S. Total Synthesis of Epothilone A. Organic Letters 2000, Vol. 2, Pages 2575-2578.	
		STACHEL, S.J.; CHAPPELL, M.D.; LEE, C.B.; DANISHEFSKY, S.J.; CHOU, T.C.; HE, L.; HORWITZ, S.B. On the Total Synthesis and Preliminary Biological Evaluations of 15(R) and 15(S) Aza-dEpoB: A Mitsunobu Inversion at C15 in Pre-Epothilone Fragments. Organic Letters 2000, Vol. 39, Pages 1637-1639	
		SAWADA, D.; SHIBASAKI, M. Enantioselective Total Synthesis of Epothilone A Using a Multifunctional Asymmetric Catalyses. Angewandte Chemie, International Edition 2000, Vol. 39, Pages 209-213.	
		KALESSE, M.; QUITSCHALLE, M.; CLAUS, E.; GERLACH, K.; PAHL, A.; MEYER, H.H. The Formal Total Synthesis of Epothilone A. European Journal of Organic Chemistry 1999, Pages 2817-2823.	
		WHITE, J.D.; SUNDERMANN, K.F.; CARTER, R.G. Improved Synthesis of Epothilone B Employing Alkylation of an Alkyne for Assembly of Subunits. Organic Letters 1999, Vol. 1, Pages 1431-1434.	
		SCHINZER, D.; BAUER, A.; SCHIEBER, J. Synthesis of (-)-Epothilone B. Chemistry--A European Journal 1999, Vol. 5, Pages 2492-2500.	
FTB ↓		NICOLAOU, K.C.; HEPWORTH, D.; FINLAY, M.R.V.; PAUL KING, N.; WERSCHKUN, B.; BIGOT, A. Synthesis of 16-Desmethylepothilone B: Improved Methodology for Rapid, Highly Selective and Convergent Construction of Epothilone Bepothilone B and and Analogs. Chemical Communications (Cambridge) 1999, Pages 519-520.	

Examiner Signature	<i>Liona T. Powers</i>	Date Considered	6/21/04
-----------------------	------------------------	--------------------	---------

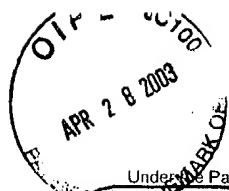
\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet	5	of	10
-------	---	----	----

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JTP ↑		TAYLOR, R.E.; GALVIN, G.M.; HILFIKER, K.A.; CHEN, Y. A Formal Synthesis of Epothilone A: Enantioselective Preparation of the C1-C6 and C7-C12 Fragments. Journal of Organic Chemistry 1998, Vol. 63, Pages 9580-9583.	
		BALOG, A.; HARRIS, C.; SAVIN, K.; ZHANG, X.-G.; CHOU, T.C.; DANISHEFSKY, S.J. A Novel Aldol Condensation with 2-Methyl-4-Pentenol and its Application to an Improved Total Synthesis of Epothilone B. Angewandte Chemie, International Edition 1998, Vol. 37, Pages 2675-2678.	
		NICOLAOU, K.C.; ROSCHANGAR, F.; VOURLOUMIS, D. Chemical Biology of Epothilones. Angewandte Chemie, International Edition 1998, Vol. 37, Pages 2014-2045.	
		SCHINZER, D.; BAUER, A.; SCHIEBER, J. Synthesis of Epothilones, Stereoselective Routes to Epothilone B. Synlett 1998, Pages 861-864.	
		MAY, S.A.; GRIECO, P.A. Total Synthesis of (-)-Epothilone B. Chemical Communications (Cambridge) 1998, Pages 1597-1598.	
		NICOLAOU, K.C.; FINLAY, M.R.V.; NINKOVIC, S.; SARABIA, F. Total Synthesis of 26-Hydroxy-Epothilone B and Related Analogs via a Macrolactonization Based Strategy. Tetrahedron 1998, Vol. 54, Pages 7127-7166.	
		NICOLAOU, K.C.; HE, Y.; ROSCHANGAR, F.; KING, N.P.; VOURLOUMIS, D.; LI, T. Total Synthesis of Epothilone E and Analogs with Modified Side Chains Through the Stille Coupling Reaction. Angewandte Chemie, International Edition 1998, Vol. 37, Pages 84-87.	
JTP ↓		NICOLAOU, K.C.; SARABIA, F.; NINKOVIC, S.; FINLAY, M.R.; BODDY, C.N.C. Probing the Ring Size of Epothilones: Total Synthesis of [14]-, [15]-, [17]-, and [18] Epothilones A. Angewandte Chemie, International Edition 1998, Vol. 37, Pages 81-84.	

Examiner Signature	<i>Liona T. Powers</i>	Date Considered	6/21/04
--------------------	------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)  
Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 6

of 10

### Complete if Known

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
ITP		NICOLAOU, K.C.; SARABIA, F.; FINLAY, M.R.V.; NINKOVIC, S.; KING, N.P.; VOURLLOUMIS, D.; HE, Y. Total Synthesis of Oxazole- and Cyclopropane-Containing Epothilone B Analogs by the Macrolactonization Approach. Chemistry--A European Journal 1997, Vol. 3, Pages 1971-1986.	
		NICOLAOU, K.C.; VALLBERG, H.; KING, N.P.; ROSCHANGAR, F.; HE, Y.; VOURLLOUMIS, D.; NICOLAOU, C.G. Total Synthesis of Oxazole- and Cyclopropane-Containing Epothilone A Analogs by the Olefin Metathesis Approach. Chemistry--A European Journal 1997, Vol. 3, Pages 1957-1970.	
		NICOLAOU, K.C.; NINKOVIC, S.; FINLAY, M.R.V.; SARABIA, F.; LI, T. Total Synthesis of 26-Hydroxyepothilone B and Related Analogs, Chemical Communications (Cambridge) 1997, Pages 2343-2344.	
		MENG, D.; BERTINATO, P.; BALOG, A.; SU, D.-S.; KAMENECKA, T.; SORENSEN, E.; DANISHEFSKY, S.J. Total Synthesis of Epothilones A and B. Journal of the American Chemical Society 1997, Vol. 119, Pages 10073-10092.	
		NICOLAOU, K.C.; NINKOVIC, S.; SARABIA, F.; VOURLLOUMIS, D.; HE, Y.; VALLBERG, H.; FINLAY, M.R.V.; YANG, Z. Total Synthesis of Epothilones A and B via a Macrolactonization-Based Strategy. Journal of the American Chemical Society 1997, Vol. 119, Pages 7974-7991.	
		BALOG, A.; MENG, D.; KAMENECKA, T.; BERTINATO, P.; SU, D.-S.; SORENSEN, E.J.; DANISHEFSKY, S.J. Total Synthesis of (-)-Epothilone A. Angewandte Chemie, International Edition in English, 1996, Vol. 35, Pages 2801-2803.	
ITP		YANG, X.; HE, Y.; VOURLLOUMIS, D.; VALLBERG, H.; NICOLAOU, K.C. Total Synthesis of Epothilone A: The Olefin Metathesis Approach. Angewandte Chemie, International Edition in English 1997, Vol. 36, Pages 166-168.	

Examiner  
Signature

*Liona T. Powers*

Date  
Considered

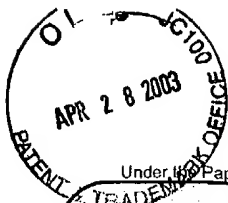
*6/21/04*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet 7 of 10

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
FTP ↑		SCHINZER, D.; LIMBERG A.; BAUER, A.; BOEHM, O.M.; CORDES, M. Total Synthesis of (-)-Epothilone A. Angewandte Chemie, International Edition in English 1997, Vol. 36, Pages 523-524.	
		NICOLAOU, K.C.; SARABIA, F.; NINKOVIC, S.; YANG, Z. Total Synthesis of Epothilone A: The Macrolactonization Approach. Angewandte Chemie, International Edition in English 1997, Vol. 36, Pages 525-527.	
		SU, D.-S.; MEND, D.; BERTINATO, P.; BALOG, A.; SORENSEN, E.J.; DANISHEFSKY, S.J.; ZHENG, Y.-H.; CHOU, T.-C.; HE, L.; HORWITZ, S.B. Total Synthesis of (-)-Epothilone B: An Extension of the Suzuki Coupling Method and Insights into	
		Structure-Activity Relationships of the Epothilones. Angewandte Chemie, International Edition in English 1997, Vol. 36, Pages 757-759.	
		APPENDINO, G.; CASIRAGHI, G. The Synthesis of Epothilones: Highlights from a Year's Race. Chemtracts--Organic Chemistry 1998, Vol. 11, Pages 678-696.	
		BIJOY, P.; AVERY, M.A. Synthetic Studies Directed Towards Epothilone A: Enantioselective Synthesis of a C7-C15 Carboxaldehyde Segment. Tetrahedron Letters 1998, Vol. 39, Pages 209-212.	
		BRABANDER, J.D.; ROSSET, S.; BERNARDELLI, G. Towards a Synthesis of Epothilone A: Rapid Assembly of the C1-C6 and C7-C12 Fragments. Synlett 1997, Pages 824-826	
		CASADEI, M.A.; GALLI, C.; MANDOLINI, L.; Ring-Closure Reactions. 22. Kinetics of Cyclization of Diethyl (w-Bromoalkyl) Malonates in the Range of 4- to 21- Membered Rings. Role of Ring Strain. Journal of American Chemical Society 1984, Vol. 106, Pages 1051-1056.	
FTP ↓		MORIKAWA, K.; PARK, J.; ANDERSSON, P.G.; HASHIYAMA, T.; SHARPLESS, K.B. Catalytic Asymmetric Dihydroxylation of Tetrasubstituted Olefins. Journal of American Chemical Society 1993, Vol. 115, Pages 8463-8464.	

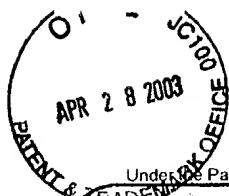
Examiner Signature	Fiona T. Powers	Date Considered	6/21/04
--------------------	-----------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet 8 of 10

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JTP ↑		BOLLAG, D.M.; MCQUENEY, P.A.; ZHU, J.; HENSENS, O.; KOUFAL, L.; LIESCH, J.; GOETZ, M.; LAZARIDES, E.; WOODS, C.M. Epothilones, A New Class of Microtubule-Stabilizing Agents with a Taxol-Like Mechanism of Action. Chemtracts-Organic Chemistry 1998. Vol. 11. Pages 671-677.	
		OJIMA, F.; HABUS, I.; ZHAO, M.; ZUCCO, M.; PARK, Y.H.; SUN, C.M.; BRIGAUD, T. New and Efficient Approaches to the SemiSynthesis of Taxol and its C-13 Side Chain Analogs by Means of B-Lactum Synthon Method. Tetrahedron 1992, Vol. 48, Pages 6985-7012.	
		CHANDRASEKHAR, S.; MOHANTY, P.K.; TAKHI, M. Practical One-Pot Di-O-Silylation and Regioselective Deprotective Oxidation of 1-O-Silyl Ether in 1,2-Diols. Journal of Organic Chemistry 1997. Vol. 62, Pages 2628-2629.	
		TREHAN, I.R.; SINGH, J.; ARORA, A.K.; KAUR, J.; KAD, G.L. Synthesis of Undecan-3-One; (+-) Frontalin; (+-)Endo-, and (+-)Exo- Brevicommin Under Sonochemical Aqueous Conditions. Indian Journal of Chemistry 1995, Vol. 34B, Pages 396-398.	
		KUMAR, G.N.; WALLE, U.K.; WALLET, T. Cytochrome P450 3A-Mediated Human Liver Microsomal Taxol 6a-Hydroxylation. The Journal of Pharmacology and Experimental Therapeutics 1994, Vol. 268, Pages 1160-1165.	
	JTP ↓	SCHRODER, M. Osmium Tetraoxide Cis Hydroxylation of Unsaturated Substrates. Chemical Review 1980, Vol. 80, Pages 187-213.	

Examiner Signature	<i>Lena T. Powers</i>	Date Considered	6/21/04
--------------------	-----------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet 9

of

10

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
FTP		HASEHM, M.A.; JUNG, A.; RIES, M.; KIRSCHNING, A. Errata and Addenda 1998, Page 195.	
		DEBRABANDER, J.; ROSSET, S.; BERNADINELLI, G. Errata and Addenda 1997, Page 824.	
		MULZER, J.; MANTOULIDIS, A.; OHLER, E. Total Synthesis of Epothilones B and D. Journal of Organic Chemistry 2000, Vol.65, Pages 7456-7467.	
		BORZILLERI, R.M.; ZHENG, X.; SCHMIDT, R.J.; JOHNSON, J.A.; KIM, S.-H.; DIMARCO, J.D.; FAIRCHILD, C.R.; GOUGOUTAS, J.Z.; LEE, F.Y.F.; LONG, B.H.; VITE, G.D. A Novel Application of a Pd(0)- Catalyzed Nucleophilic Substitution Reaction to the Regio- and Stereoselective Synthesis of Lactam Analogues of the Epothilone Natural Products. Journal of the American Chemical Society 2000, Vol. 122. Pages 8890-8897.	
		ANDERSSON, P.G.; SHARPLESS, K.B. A Dramatic Ligand Effect on the Relative Reactivities of Substituted Alkenes with Osmium Tetroxide. Journal of the American Chemical Society 1993, Vol. 115, Pages 7047-7048.	
		NICOLAOU, K.C.; WINSSINGER, N.; PASTOR, J.; NINKOVIC, S.; SARABIA, F.; HE, Y.; VOURLUMIS, D.; YANG, Z.; LI, T.; GIANNAKAKOU, P.; HAMEL, E. Synthesis of Epothilones A and B in Solid and Solution Phase. Nature, Vol. 387, May 15, 1997, Pages 268-272.	
		MULZER, J.; KARIG, G.; PUJARLIEV, P. A Novel Highly Stereoselective Total Synthesis of Epothilone B and of its (12R, 13R) Acetonide. Tetrahedron Letters 2000, Vol. 41, Pages 7635-7638.	
FTP		MULZER, J. Epothilone B and Its Derivatives as Novel Antitumor Drugs: Total and Partial Synthesis and Biological Evaluation. Monatshefte fur Chemie 2000, Vol. 131, Pages 205-238.	

Examiner Signature	Leona T. Powers	Date Considered	6/21/04
--------------------	-----------------	-----------------	---------

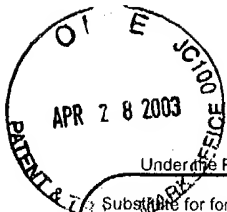
\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/981,312
Filing Date	10/15/2001
First Named Inventor	Mitchell A. Avery
Art Unit	1614
Examiner Name	Andrea D. Souza Small
Attorney Docket Number	1786

Sheet	10	of	10
-------	----	----	----

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AP		NICOLAOU, K.C.; HEPWORTH, D.; KING, N.P.; FINLAY, M.R.V.; SCARPELLI, R.; MANUELA, M.; PEREIRA, A.; BOLLBUCK, B.; BIGOT, A.; WERSCHKUN, B.; WINSSINGER, N. Total Synthesis of 16-Desmethylepothilone B, Epothilone B10, Epothilone F, and Related Side Chain Modified Epothilone B Analogues. European Chemical Journal 2000, Vol. 6, Pages 2783-2800.	

Examiner Signature	Liona T. Powers	Date Considered	6/21/04
-----------------------	-----------------	--------------------	---------

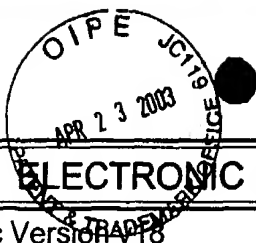
\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





# ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of  
Invention

SYNTHESIS OF EPOTHILONES AND RELATED ANALOGS

RECEIVED

APR 28 2003

TECH CENTER 1600/2900

Application Number: 09/981312  
Confirmation Number: 4970  
First Named Applicant: Mitchell Avery  
Attorney Docket Number: 1786  
Art Unit: 1626  
Examiner: Andrea D. Souza Small  
Search string: ( 6284781 or 6242469 or 6316630 or 6300355 or  
6380394 or 5969145 or 6156905 or 6043372 or  
6350878 or 6204388 or 6211412 or 6262094 ).pn.

## US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
IP	1	6284781	2001-09-04	Danishefsky et al.			
↑	2	6242469	2001-06-05	Danishefsky et al.			
	3	6316630	2001-11-13	Danishefsky et al.			
	4	6300355	2001-10-09	Danishefsky et al.			
	5	6380394	2002-04-30	Nicolaou et al.			
	6	5969145	1999-10-19	Schinzer et al.			
	7	6156905	2000-12-05	Schinzer et al.			
	8	6043372	2000-03-28	Schinzer et al.			
	9	6350878	2002-02-26	Altmann et al.			
	10	6204388	2001-03-20	Danishefsky et al.	B1		
↓	11	6211412	2001-04-03	Georg et al.	B1		
IP	12	6262094	2001-07-17	Hoefle et al.	B1		

## Remarks

Not : Remarks are not for responding to an office action.



The U.S. Patents identified herein have come to the attention of the undersigned in connection with the subject application. The identification of these U.S. patents is for the purpose of meeting Applicant's duty of disclosure under 37 C.F.R. Section 1.56 and is not intended to be an admission that any of these U.S. patents constitute prior art as to the invention disclosed and claimed in the subject application. Further, Applicant makes no representation whether any of these U.S. Patents qualify as prior art under 35 U.S.C. 102. The Examiner is courteously solicited to enter an expeditious allowance of this application. If any questions remain to be addressed, it is respectfully requested that the filing attorney for the Applicant be contacted.

Signature

Examiner Name	Date
<i>Fiona T. Powers</i>	<i>6/21/04</i>